

### REMARKS

Applicant appreciates the consideration shown by the U.S. Patent Office, as evidenced by the September 24, 2007 Final Office Action. In that Office Action, out of claims 1-37, claims 1-37, were rejected. As such, claims 1-37 remain in the application, with amendments to claims 1, 18, and 22. Applicant respectfully requests reconsideration of the application by the Examiner in light of the above amendments and the following remarks in response to the May 24th, 2007 Office Action.

During November 29<sup>th</sup>, 2007 examiner interview, the patentability of the claims as presented herein over the references were discussed. Applicant has amended claims 1, 18, and 22 to facilitate prosecution of the application; the amendments are supported by the specification as filed do not include new matter.

### NONOBVIOUSNESS

The claims are not obvious because the cited references, either individually or in combination, fail to disclose a catalyst injection system that is mobile, fails to disclose a mobile catalyst injection system configured to an FCC unit, and also fails to disclose a mobile catalyst injection system adapted to control the flow of catalyst directly to the FCC unit.

#### Nonobviousness over Andon

The Office Action rejected claims 1-6, 9, 18, 21, 22, 25, 36, and 37 under 35 U.S.C. 103(a) as allegedly obvious over Andon (U.S. 4,082,513).

According to MPEP and past and recent case law, to establish a prima facie case of obviousness, it is and still remains *necessary* for the Office Action to identity the reason why a person **of ordinary skill in the art would have combined the prior art elements in the manner claimed.** Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd. 06-1329 Fed. Cir. 2007. Allegations of ‘obvious to try’ are not sufficient if “the situation presented was not one with a **finite number of identified, predictable solutions.**” Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd. 06-1329 Fed. Cir. 2007. Thus, an Examiner must necessarily identify some reason that would have led one of ordinary skill in the art to make the modification.



In this case, by words and drawings, Andon discloses a catalyst storage tank that is not mobile nor by itself, an injection system. The catalyst storage tank is just capable of ‘**receiving catalyst**’ from trucks or cars and the mobile aspect is the truck which is not and cannot function as an injection system to directly control the flow of catalyst unit because it has no pressure control and or batch control required to function as an injection system. Furthermore, in Andon, the mobile aspect is also not the tank 10 and addition hopper 16 i.e. injection system, but the truck which delivers catalyst to the catalyst storage tank. The catalyst must then subsequently be transferred from the catalyst storage tank to the non-mobile addition hopper (16), which actually delivers the catalyst to an FCC unit because the catalyst storage tank is incapable of delivering catalyst directly to an FCC unit. Andon expressly discloses that the non-mobile hopper 16 is directly coupled to the FCC unit (col. 2 line 26). The valve 28 of the tank (10) may be left open or closed and to the tank (10) and valve (28) is not suitable to control the flow of catalyst directly to the FCC unit:

“The catalyst storage tank 10 has a bulk fill line 11 fitted with a valve 28 for **receiving catalyst from tank trucks or tank cars, a vent line 2 fitted with an automatic valve 13, and a catalyst discharge line 14 fitted with automatic valve 15. The catalyst addition hopper 16 is located** so that its lowest point is about ten feet **below the bottom of the catalyst storage tank 10** and is connected near its top to the other ends of vent line 12 and catalyst addition line 14. ... The bottom of addition hopper 16 is shaped to permit full discharge of its contents through discharge line 19. Line 19 is ..... conveys the catalyst to the regenerator section of the fluid catalytic cracker. Col 2. lines 9-26).

Thus, Andon fails to disclose a catalyst injection system that itself is **mobile** and a catalyst injection system configured to be **coupled** to an FCC unit and adapted to **control the flow of catalyst directly** to the FCC unit.

Andon’s catalyst storage tank is just capable of ‘**receiving catalyst**’ and is neither **mobile**, nor configured to be **coupled** to an FCC unit, and nor an injection system because it is not adapted to **control the flow of catalyst directly** to the FCC unit. Furthermore, Andon’s Figure 1 also shows that Andon’s catalyst storage tank (10) receives the catalyst, the catalyst must then subsequently be transferred to the addition hopper (16), and the catalyst is then transferred from the non-mobile addition hopper (16) to an FCC unit. Andon discloses sequentially and spatially separate aspects of from a truck or trailer to a catalyst storage tank; then from a catalyst storage tank to the addition hopper; and then from addition hopper to FCC



unit (i.e. from A to B to C to FCC Unit) as opposed to from a mobile catalyst injection system configured to be coupled to an FCC Unit (i.e. from A to FCC Unit) and adapted to control the flow of catalyst directly to the FCC Unit, wherein the mobile catalyst injection system compromises a transportable platform, catalyst reservoir, and flow control device. By elimination of the “B” and “C” components of Andon, e.g., the tank (10) and hopper (16), the injection system is eliminated, leaving a truck which is physically incapable as operating as an injection system as evidenced by the enclosed declaration of Martin Evans.

Furthermore, the Office Action fails to demonstrate any suggestion or motivation to modify Andon’s catalyst storage tank to be mobile and/or to comprise a mobile catalyst injection system *configured to be coupled to and adapted to control flow of catalyst to an FCC unit*. Nor has the Office Action demonstrated a reasonable expectation of success. The issue is not whether Andon’s catalyst storage tank may merely be modified to be an injection system and be mobile; but whether Andon or other evidence provides any suggestion or motivation to modify and a reasonable expectation of success in disclosing a catalyst injection system that is **mobile**, is **configured to be coupled to an FCC unit** and is adapted to **control flow of catalyst directly to the FCC unit**.

A reference cannot be used to demonstrate obviousness and is not properly combinable or modifiable if the intended purpose is destroyed and teaches away. In this case, what is mobile or made mobile in Andon is the truck or trailer delivering catalyst, not the injection system i.e., the storage tank (10) and addition hopper (16). Andon discloses sequentially and spatially separate aspects from a truck or trailer to a catalyst storage tank; then from a catalyst storage tank to the addition hopper; and then from addition hopper to FCC unit (i.e. from A to B to C to FCC Unit). Thus, Andon fails to disclose a catalyst injection system that itself is mobile and is configured to be coupled to an FCC unit and adapted to control the flow directly to the FCC unit because Andon’s catalyst storage tank is neither **mobile** nor configured to be **coupled** to an FCC unit and nor an injection system because the catalyst storage tank is not adapted to **control the flow of catalyst directly** to the FCC unit. Such self limiting structural and functional restrictions of Andon’s catalyst storage tank are not just differences in degrees, but differences in kind which teach away from, is inoperable, and is not properly combinable or modifiable to disclose a catalyst injection system that is **mobile**, is **configured to be coupled to an FCC unit** and is adapted to **control flow of catalyst directly to the FCC unit** without destroying Andon’s



intended purpose. A contradictory and teaching away reference such as Andon is inoperable and is not properly combinable or modifiable without destroying its intended purpose of sequentially and spatially separate aspects of catalyst delivery of from a truck or trailer to a non-mobile catalyst storage tank (10); then from the catalyst storage tank (10) to the non-mobile addition hopper (16), which then actually delivers the catalyst to the FCC unit.

Furthermore, as stated in Martin Evan's declaration and attached references, one of ordinary skill would not be motivated to modify by bypassing the catalyst storage tank based on an alleged capital savings, labor, and or square footage, as such modification(s), instead of decreasing, would actually increase capital cost, labor, and or square footage. Furthermore, the September 24, 2007 Office Action (page 4) alleges a person having ordinary skill in the art of catalyst injection systems would easily recognize from a complete reading of Andon that one could bypass the catalyst storage tank (10) of Andon in order to "control the flow of catalyst through the reservoir [i.e., "tank truck" or "tank car"] outlet directly to the fluid catalyst cracking unit," e.g., by delivery of the catalyst from the catalyst reservoir to the carrier line (19) and then directly to the fluid catalyst cracking unit (see Andon, drawing).

As stated in Martin Evan's declaration and the Office Action's conclusion is technically incorrect and impossible because the truck, as disclosed in Andon, is incapable of discharging catalyst from a lower pressure environment to a higher pressure system such as an FCCU (fluid catalytic cracking unit) and is inoperable to bypass the catalyst storage tank. Trucks of the type disclosed in Andon are designed for a maximum pressure of about 15 psi in contrast to the operational pressure of an FCCU which is from about 20 up to 40 psi. The pressure ratings of such disclosed trucks are known to one of ordinary skill in the art. Non limiting examples of truck pressure ratings, as known to one of ordinary skill in the art, may be found in the attached citations of page 1 of Pneumatic Technology Inc. The operational pressures of an FCCU are known to one of ordinary skill in the art. Non limiting examples of FCCU operational pressures, as known to one of ordinary skill in the art, are described in:

[http://www.refiningonline.com/engelhardkb/crep/TCR1\\_5.htm](http://www.refiningonline.com/engelhardkb/crep/TCR1_5.htm)

[http://www.ogj.com/articles/save\\_screen.cfm?ARTICLE\\_ID=128542](http://www.ogj.com/articles/save_screen.cfm?ARTICLE_ID=128542).

Hence, trucks, as disclosed in Andon, are inoperable to bypass the catalyst storage tank and discharge into a higher pressure system of the FCCU because pressure differential from the truck as to the FCCU is in wrong direction as catalyst cannot flow from low to high pressure.



Furthermore, the trucks of the type disclosed in Andon also do not have the dispense control required for providing discrete additions of catalyst to an FCCU required for process control.

Furthermore, one of ordinary skill in the art would not be motivated to modify by bypassing the catalyst storage tank based on savings in capital, labor, and or square footage, as such modification(s) would actually increase capital cost, labor, and or square footage as shown by the attached reference.

Regarding labor and capital, labor and capital are actually increased because more material is needed as a truck, as disclosed in the references, has too high a capacity for this purpose. For example, a typical FCCU injection system capacity ranges from 1-12 tons, while a truck as disclosed in the references has a capacity of about 25 tons. Furthermore, as discussed above, the trucks as disclosed are inoperable to bypass the catalyst storage tank and discharge into a higher pressure system of the FCCU because catalyst cannot flow from low pressure of the truck to high pressure of the FCCU.

Furthermore, labor or cost is also increased because more than 1 truck is needed; at least 2 trucks are needed, since 1 truck must be available to replace the first truck immediately when it becomes empty. The cost of a truck is about \$68,000-\$100,000; hence, the cost of 2 trucks is \$138,000-\$200,000 (without trailer). See [www.arrowtruck.com](http://www.arrowtruck.com). Additionally, the use of 2 trucks would require even more catalyst to be available at the refinery. Thus, cost is actually increased in attempts to bypass the catalyst storage tank.

Square footage is also increased as at least 2 trucks are needed to replace 1 truck as another truck is switched in its place. The square footage of an average truck is about 320sq ft compared to average square footage of an injection system which ranges from about 33 to about 224 square ft. For example, average square foot of a truck is length multiplied by width. In this case, the truck has an average width of 8 feet and has a length of about 40 feet which includes length of wheel base and trailer of 18 ft + 22 ft. Hence, an average truck as disclosed in the references has an average square foot 320, which is length of 40 multiplied by width of 8. Furthermore, if 2 trucks are needed, average square footage of 2 truck is about 620 sq ft compared to average square footage of an additional system which ranges from about 33 to about 224 square ft.



Average square foot of an injection system is based on the table and link below of length multiplied by width, ranges from about 33 square ft to 224 sq. ft.

<http://www.intercatinc.com/additionsystems.htm>

Volume (ft <sup>3</sup> )	Capacity (tons)	Height (feet)	Width (feet)	Length (feet)	Vessel Diameter (feet)	Approx Weight (lbs.)
50	1	18	5.5	6.0	3	2500
200	5	21	7.5	7.5	5	5600
500	12	35	11.5	11.5	7	12000
1100	27	44	14.0	12.0	8	26000
2500	62	56	14.5	15.5	10	37500

Thus, Applicant respectfully submits that the rejection is overcome and independent claims are not obvious. Applicant respectfully submits that as the current independent claims are allowable, the claims which depend from the independent claims are also allowable.

Nonobviousness over Andon in view of Comardo

Alternatively, the Office Action rejected claims 1-6, 9, 18, 21, 22, 25, 36, and 37 under 35 U.S.C. 103(a) as allegedly obvious over Andon (U.S. 4,082,513) in view of Comardo (6132157)

A reference cannot be used to demonstrate obviousness and is not properly combinable or modifiable if the intended purpose is destroyed and teaches away. In this case, Andon and Comardo, either individually or in combination, are not properly combinable or modifiable because the intended purpose is destroyed and teaches away.

Comardo fails to provide the missing elements or motivation to modify that Andon lacks, as discussed above. Comardo discloses loading of *pellets* into the reaction tubes of the reactor to achieve even drop rate while the system is *shut down* at *atmospheric pressure* as shown below:

“catalyst loading system for utilizing catalyst from a bulk supply located adjacent but not on the upper tube sheet of a catalytic reactor and for mechanized measuring of multiple identical quantities of catalyst and for



mechanized loading of catalyst pellets into the reaction tubes of the reactor to achieve even drop rate”( Abstract)

Comardo fails to disclose an injection system for FCC unit and does not disclose a reactor of an fluid catalytic unit; the reactor of Comardo is fundamentally different and does not disclose an injection system for an FCC unit nor a mobile injection system for delivering catalyst to an FCC unit, and also fails to disclose adding *catalyst* by a mobile injection system to the regenerator of an FCC system while the FCC system is *in operation at high pressure*.

Thus, Comardo teaches loading of *pellets* into the reaction tubes of the reactor to achieve even drop rate while the system is *shut down at atmospheric pressure* as opposed to adding *catalyst* to the regenerator of an FCC system by a mobile injection system while the FCC system is *in operation at high pressure*.

The self limiting structural and functional restrictions of Comardo's loading of pellets into the reaction tubes of the reactor to achieve even drop rate while the system is *shut down at atmospheric pressure* are not just differences in degrees, but differences in kind which teach away from, is inoperable, or is not properly combinable or modifiable to add catalyst by a mobile injection system to the regenerator of an FCC system while the FCC system is *in operation at high pressure*. A contradictory and teaching away reference such as Comardo is also inoperable and is not properly modifiable or combinable in view of Andon without destroying Comardo's intended purpose of loading pellets into the reaction tubes of the reactor to achieve even drop rate as opposed to adding catalyst by a mobile injection system to the regenerator of an FCC system while the FCC system is *in operation at high pressure*.

Consequently, Applicant respectfully submits that the rejection is overcome and independent claims are not obvious. As current independent claims are allowable, the claims which depend from the independent claims are also allowable

#### Nonobviousness over Erickson

The Office Action rejected claims 7, 8, 10-12, 17, and 26-30 under 35 U.S.C. 103(a) as allegedly unpatentable over Erickson (U.S. 4,769,127).

Erickson fails to disclose a catalyst injection system that itself is **mobile**, a catalyst injection system **configured to be coupled to an FCC unit** and a catalyst injection system



adapted to control the flow of catalyst **directly** to the **FCC unit**, each undisclosed element of which independently refute that the present claims are obvious. By words and drawings, Erickson repeatedly only disclose a catalyst storage container (400) that is temporarily and transiently made mobile by being **carried and transported by a trolley/monorail** to a **fresh catalyst silos 68 or 70** and the catalyst must then be transferred to the addition hopper (86 or 88); it is the addition hopper (86 or 88) which then actually delivers the catalyst to the FCC unit, as shown below.

“Desirably, **an overhead monorail is provided to transport the fresh catalyst** bins from the staging area to a discharge area above the silos, as well as to transport the spent catalyst bins from the spent catalyst filling zone to the staging area. In the preferred form, the monorail equipment includes a single overhead rail or track and a trolley which rides upon the rail. A transport carrier is operatively connected to the trolley and is raised and lowered from the trolley by cables. The transport carrier has grab hooks for grasping the fresh and spent catalyst bins.”  
(column 4, lines 20-22)

“The fresh catalyst bin is then lifted off the intelligence pad and raised to the underside of an overhead monorail 52 (FIG. 3) by the grab hooks 54 of a monorail transport carrier 56. The monorail transport carrier is operatively connected to the monorail trolley 58 by cables 60. The trolley and the grab hooks are operatively connected to the central processing unit and are remotely and automatically controlled. The trolley and grab hooks also have manual override safety controls.”  
(column 6, lines 62-68)

“Each fresh catalyst container is **carried by the overhead monorail** from the staging area facility to a remote control, computerized lift elevator 62 (FIG. 3). The lift elevator raises the fresh catalyst container to a monorail spur 52' or 52". The fresh catalyst container is **carried and transported by the trolley** on the monorail spur to a tilting mechanism and discharge assembly 64 or 66 (FIGS. 3 and 4) where the **fresh catalyst contents of the bin are dumped into one of two fresh catalyst silos 68 or 70** depending on the type (composition) of the catalyst. The empty fresh catalyst containers are returned to the staging area, catalyst vendors and suppliers by reversing the above procedure.”  
(column 6, lines 3-15)

“The fresh catalyst is **pneumatically conveyed from the silo through pneumatic transfer vessels 71-74 to a surge hopper 76 or 78 with nitrogen gas from nitrogen gas injectors 80. Smaller particles of the fresh catalyst are removed** by vibrating screens 82 or 84. The removed smaller particles are carried by nitrogen gas through a horizontal air slide to a vertical chute and loaded into spent catalyst containers 500 on intelligence pads 38 positioned on weight scales



40 and transported to the staging area and reclamation site in a manner similar to the spent catalyst containers loaded with deoiled catalyst. Larger particles of fresh catalyst are passed to a storage hopper 86 or 88 from which they are fluidly conveyed to the reactors of a resid hydrotreating unit (RHU) by a heavy vacuum gas oil slurry.(column 6, lines 16-30)

Furthermore, Erickson's Figure 3 also shows that Erickson's catalyst storage container (400) is just temporarily made mobile by being **carried and transported by a trolley/monorail** to a **fresh catalyst silos 68 or 70** and is incapable of being configured to be coupled to an FCC unit and is adapted to **control flow of catalyst directly to the FCC unit because the container (400) fails to have the physical characteristics required to enable direct injection of catalyst from the container (400) to the FCCU as described in the Declaration of Martin Evans.** Catalyst must first be transferred to the addition hopper (86 or 88); it the addition hopper which is the injection system that adds the catalyst to the to reactor.

A reference cannot be used to demonstrate obviousness and is not properly combinable or modifiable if the intended purpose is destroyed and teaches away. In this case, what is temporarily made mobile in Erickson is the catalyst container (400), not Erickson's injection device downstream of the silos 68 or 70. Erickson discloses sequentially and spatially separate aspects: from monorail to a silo; then from the silo to the injection device; and then from the injection system to FCC unit (i.e. from A to B to C to FCC Unit). Thus, Erickson fails to disclose a catalyst injection system that itself is mobile and is configured to be coupled to an FCC unit and adapted to control the flow directly to the FCC unit because Erickson's catalyst silos are neither **mobile** nor configured to be **coupled** to an FCC unit and nor is the transport container of Erickson an injection system because it is fails to have the physical characteristics required to enable direct injection of catalyst from the container (400) to the FCCU. Such self limiting structural and functional restrictions of Erickson's catalyst transport container (400) are not just differences in degrees, but differences in kind which teach away from, is inoperable, and is not properly combinable or modifiable to disclose a catalyst injection system that **is mobile**, is configured to be coupled to an FCC unit and is adapted to control flow of catalyst directly to the FCC unit without destroying Erickson's intended purpose. A contradictory and teaching away reference such as Erickson is inoperable and is not properly combinable or modifiable without destroying its intended purpose of sequentially and spatially separate aspects of catalyst



delivery of from a truck or train to a catalyst transport container (400); then from the transport container to the non-mobile silos; then from the silos to an injection device, which actually delivers the catalyst to the FCC unit.

Thus, Applicant respectfully submits that the rejection is overcome and independent claims 1, 18, 22, and 26 are not obvious. Applicant respectfully submits that as the current independent claims are allowable, the claims which depend from the independent claims are also allowable.

Nonobviousness over Erickson in view of Comardo

Erickson and Comardo respectively fail to provide the missing element or motivation as discussed above and are not properly combinable or modifiable, when viewed together, because their intended purpose are destroyed and teaches away.

As discussed above, Erickson only discloses a catalyst transport container (400) just temporarily made mobile by being **carried and transported by a trolley/monorail to a fresh catalyst silos 68 or 70** and is incapable of being configured to be coupled to an FCC unit and is adapted to control flow of catalyst directly to the FCC unit . Comardo does not provide the missing element or motivation to modify. Comardo fails to provide the missing element or motivation. As discussed above, Comardo fails to disclose adding catalyst by a mobile injection system to the regenerator of an FCC system while the FCC system is *in operation at high pressure*.

Erickson cannot be modified in view of Comardo because the self limiting structural and functional restrictions of Comardo and Erickson, either individually or in combination, are not just differences in degrees, but differences in kind which teach away from, is inoperable, or is not properly combinable or modifiable to add catalyst to an FCC unit via a mobile injection system. Erickson is inoperable and is not properly modifiable or combinable in view of Comardo to disclose *an injection system that is mobile* and adapted to control flow of catalyst directly to the FCC unit, without destroying Erickson's intended purpose of a catalyst transport container just temporarily made mobile by being **carried and transported by a trolley/monorail to a fresh catalyst silos 68 or 70** and incapable of being configured to be coupled to an FCC unit and incapable of being adapted to control flow of catalyst directly to the FCC unit .



Furthermore, Comardo cannot be modified in view of Erickson because the self limiting structural and functional restrictions of Comardo and Erickson, either individually or in combination, are not just differences in degrees, but differences in kind which teach away from, is inoperable, or is not properly combinable or modifiable to add catalyst by a mobile injection system to an FCC unit. A contradictory and teaching away reference such as Comardo is also inoperable and is not properly modifiable or combinable in view of Erickson to disclose adding catalyst by a mobile injection system to the regenerator of an FCC system while the FCC system is *in operation at high pressure* without destroying Comardo's intended purpose of loading of pellets into the reaction tubes of the reactor to achieve even drop rate while the system is *shut down at atmospheric pressure*.

Thus, Applicant respectfully submits that the rejection is overcome and independent claims 1, 18, 22, and 26 are not obvious. Applicant respectfully submits that as the current independent claims are allowable, the claims which depend from the independent claims are also allowable.

#### Nonobviousness over Erickson in view of Haugen

The Office Action rejected claims 13-16, 31-32, 34 and 35 under 35 U.S.C. 103(a) as allegedly unpatentable over Erickson in view of Haugen (US 2616591).

Erickson and Haugen, either individually or in combination, fail to provide the missing element or motivation as discussed above. Erickson fails to disclose to a catalyst injection system **that is mobile, configured to be coupled to an FCC Unit and** adapted to control the flow of catalyst **directly** to the **FCC unit**. Haugen also fails to provide the missing suggestion or motivation to modify to provide injection system that is mobile, **configured to be coupled to an FCC unit and** adapted to control the flow of catalyst **directly** to the **FCC unit**.

Haugen fails to disclose a vessel **configured to deliver catalyst to a fluid catalytic cracking unit** (FCC unit) for multiple reasons, each of which independently refutes the unsupported allegations of obviousness.

Haugen only discloses top open measuring devices traveling in a circuit or rotating over a table and repeatedly emphasizes the rotating or circuit feature and only teaches passing of measured material to an open spout, as shown below:



“In volumetric package filling machines, a hopper delivers fluent material into measuring devices traveling in a circuit over a table provided with a spout delivering to a carton or jar, or other container. With some materials and quantities, the number of packages that can be filled per minute becomes limited by the time required for the material to move through each measuring device.” (Col 1 line 1-8)

“The object of this invention is to avoid that limit. Generally speaking, this is accomplished by making a plurality of measuring devices work together on a desired quantity of material, each contributing its separate portion simultaneously with the other to make up the whole in correspondingly less time.” (Col 1 line 1-8)

“The base 10 of the machine carries a column 11 for supporting hoppers 12 and 13, which deliver fluent material through a series of measuring devices, generally indicated by 14, rotating in a circuit over a stationary table 15 having a spout 16 adapted to deliver to a big carton, jar, or the like.” (Col 1 line 36-42)

The table 15 is provided with spaced discharge openings 26 and 27 through which the measured material passes to the arms or channels 28 of the spout 16, which is forked to make these channels lead from the discharge openings to a common delivery opening. (Col 1 line 50-56)

Haugen’s teaching of top open measuring devices traveling in a circuit over a table to an open spout fails to disclose a vessel configured to deliver catalyst to a fluid catalytic cracking unit as an open spout does not and cannot deliver catalyst to an FCC unit. The open spout would just result in a spillage of the catalyst instead of delivery to the FCC unit. Furthermore, Haugen’s teaching of top open measuring devices also fails to disclose a pressurizable plenum as the open top does not disclose or allow a pressurizable plenum, as recited by claims 13-16. Such self



limiting structural and functional restrictions of Haugen are not just differences in degrees, but differences in kind which teach away from and or is inoperable to deliver catalyst to a fluid catalytic cracking unit. Haugen is inoperable and is not properly modifiable or combinable in view of Erickson to disclose *a pressurizable injection system that is mobile and adapted to control flow of catalyst directly to the FCC unit*, without destroying Haugen's intended purpose of an open top open spout non pressurizable system.

Regarding a plurality of compartments as recited by claims 13-16, 31-32 and 34-35, Haugen not only fails to disclose but actually teaches away from a plurality of compartments by repeatedly and explicitly disclosing a revolving rotating measuring device, as disclosed above.

Consequently, Applicant respectfully submits that independent claims and the all the claims dependent thereon, are not anticipated as the Office Action fails to teach *every aspect* of the claimed invention.

As such, Erickson and Haugen references, either individually or combined, fail to teach all the claimed elements and do not establish a *prima facie* case of obviousness

#### Nonobviousness over Andon in view of Haugen

The Office Action rejected dependent claims 19-21, 23-25 and 33 under 35 U.S.C. 103(a) as allegedly unpatentable over Andon (US 4082513) in view of Haugen (US 2616591).

In this case, Andon and Haugen, either individually or in combination, are not properly combinable or modifiable because the intended purpose is destroyed and teaches away. Regarding Andon, as discussed above, Andon fails to disclose a catalyst injection system that itself is mobile and is configured to be coupled to an FCC unit and adapted to control the flow directly to the FCC unit because Andon's catalyst storage tank is neither **mobile** nor configured to be **coupled** to an FCC unit and nor an injection system because it is not adapted to **control the flow of catalyst directly** to the FCC unit.

Haugen fails to provide the missing elements or motivation to modify. As discussed above, Haugen fails to disclose a vessel configured to deliver catalyst to a fluid catalytic cracking unit as an open spout does not and cannot deliver catalyst to an FCC unit. The open spout would



just result in a spillage of the catalyst instead of delivery to the FCC unit. Furthermore, Haugen's teaching of top open and open spout measuring devices also fails to disclose a pressurizable plenum as the open top does not and cannot allow a pressurizable plenum, as recited in claims 19-21, 23-24 and 33. Such self limiting structural and functional restrictions of Haugen are not just differences in degrees, but differences in kind which teach away from and or is inoperable to deliver catalyst to a fluid catalytic cracking unit and provide a pressurizable plenum.

Regarding a plurality of compartments as recited in claims 19-21, 23-24 and 33, Haugen not only fails to disclose but actually teaches away from a plurality of compartments by repeatedly and explicitly disclosing a revolving rotating measuring device, as disclosed above.

As such, Andon and Haugen references, either individually or combined, fail to teach all the claimed elements and do not establish a *prima facie* case of obviousness. Consequently, Applicant respectfully submits that the independent claims are not obvious. As current independent claims are allowable, the claims which depend from the independent claims are also allowable.

As stated in the declaration of Martin Evans, one of ordinary skill in the art would not be motivated to modify, in view of a combination of the cited references, by bypassing the catalyst storage tank based on savings in capital, labor, and or square footage, such modification(s) would actually increase capital cost, labor, and or square footage for the reasons discussed above.

## **CONCLUSION**

Applicant respectfully requests an Examiner interview and or submits that the present amendment places the application in condition for allowance. Thus, the Applicant submits that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.



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If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

1-24-07

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